1. INTRODUCTION

Sacral buildings are relevant issue against entire contemporary western architecture. Including spiritual values, they are obliged to represent cultural heritage on the high visual level. Their forms have to transfer particular meaning. German Christian background seems to be interesting field of research as long as the developed building industry provide with many investments realized since 2000. It also allows to outline a multi-denominational intersection for this branch of an architecture.

1.1. Current state of knowledge

Despite the above mentioned notation, the current literature makes no distinction between the period before and after 2000. However, particular studies pay attention to the contemporary sacral architecture in Germany. These are primarily the cross-sectional studies, where the examples are not listed with respect to the place of origin. The basic publication is authorized by Rudolf Stegers, the architectural critic based in Berlin [1]. It is a sort of treatise that differs compositional determinants of the most important contemporary ecclesiastical buildings in spite of declared design manual character. Even though the book does
not concern only German architecture, it contains numerous examples of works covered in this paper. The structure of Steger’s study primarily relates to the different religions, but individually described examples allow to clearly separate the German architecture. The second important study was conducted by Polish art historian Cezary Wąs [2]. This work concerns wide international context, however, accurately indicates the differences and paradoxes of church architecture by describing in detail selected compositions also in Germany. The book author also draws attention to the historical and social context. Numerous analysis can also be found in particular scientific journals. However, in this case the studies most often concentrate on the international context [3, 4, 5, 6] while the others examine the German contemporary ecclesiastical architecture in the non-sacral context [7].

1.2. The methodology of the research
The theoretical study was applied. The comparative method was chosen. The particular groups of analyzed works were featured. It results from the qualitative analysis at the background of cultural system. However, some elements of a quantitative analysis were applied as well. It shows the interaction between religion, function and the type of the composition. The comparative method is reasonable against the internationalism, globalization and unification of an architectural form.

2. CONCEPTUAL ISSUES
The important point is an indication of the determinant that refers to a form of ecclesiastical architecture. A secondary issue is whether the sacral architecture is exposed to the same aesthetic processes as the form of secular objects nowadays. This seems to be essential today according to a numerous projects of temples that have been involved in neo-modern formula.

2.1. The aim and the range of study
The main aim of the study is to outline the image of the newest sacral western architecture. The issue of identification of sacred architecture to the whole of contemporary architecture has also been raised. Some attention is also drawn to the question of cultural continuity in the context of modernist architecture, which unified all architectural forms. That is why the historical background seems to be also important factor of the analysis.

The range of study is covered by the selected examples of contemporary sacral architecture. The scope of the research was limited to German architecture, as it is characterized by the diverse projects that are realized for different religious communities. Moreover, the developed local building industry provide with many investments at the adequate level that are representative for European culture.

2.2. Architecture as a part of both sacral and social process
Debate on contemporary sacred architecture may be actually treated as a discussion about religion [8]. The sacred buildings stand the religious context anyway. According to some theories, they have particular impact on shaping the attitudes of faith [9]. Even the contemporary debate on issues of architecture and liturgy introduced a neologism „archi-liturgical” [10]. Also social aspect seems to be important challenge for contemporary sacral investment. Concomitant functions for local community are also essential as long as they are related to the spiritual core.

2.3. The term “sacral”
The concept requires some clarification because the sacral building is constituted by a process of consecration which is part of the liturgy. That creates a sort of investment complication in the field of changing a function, because secularized churches nevertheless still may be considered as the temples [11]. According to some research, ecclesiastical buildings may change their function provided that the historical heritage is protected as the most important value [12]. The problem of changing the function from sacral to social still provokes the question of a dignity in the field of architectural identity [3]. However, for the purposes of this text, it is assumed that the term “sacral” also refers to any function associated with a place of worship, as some contemporary examples illustrate the simultaneous bonding of multiple social function.

3. HISTORICAL BACKGROUND
The problem concerns the modern form at the historical background. German sacral architecture before the age of modernity remains dichotomy of classicist and gothic forms [13]. This became clear after the Wöfflin’s period, which renewed the ideal of harmony characteristic for past buildings. By limiting
the discussion to a group of Christian churches it should be noted that this taxonomy largely lost its importance after the era of historicism.

Modernity in German church architecture marked its special position with expressionistic form at the beginning of twentieth century. The details of the church known as “Kirche am Hohenzollernplatz” designed by Fritz Höger and Ossip Klarwein as well as Kreuzkirche by Ernst und Günther Paulus, both situated in Berlin, represent the unique “style of fantasy”. On the other hand, modern-style of St. Fronleichnam Church by Rudolf Schwarz in Aachen represents an alternative geometrical version of advanced expressionism. Another important work by this architect is the reconstruction of Saint Anna church in Düren. This form corresponds with brutalist tendency of that time. Next distinctive building from this period is St. Judas-Thaddäus-Kirche in Berlin district Tempelhof-Schöneberg designed by Reinhard Hofbauer. The folded form represents the style of “Betonplastik”. Moreover, Gottfried Böhm presents the opposite face of neo-expressionism in the deconstructive form of pilgrimage church in Neviges (the present city of Velbert). This realization is the example of sacral architecture that is rooted in metaphysics and it crosses the limit of symbolism [2]. Not only the development of a style in art and architecture, but also a reform of the institution created evolution of a sacral architecture. For instance, from the perspective of Western Church, “the new liturgical trend in Germany as well as the emerging concept of the modern architecture were the harbinger of changes which, however, took place fully only after the Second Vatican Council” [4], although “[...] liturgical renewal was started already in the 1930s, before the Second Vatican Council and one of its forerunners was Romano Guardini” [4]. However, it can be said that Guardini influenced the entire spiritual minimalism in aesthetics, which is in keeping with great German ontological and phenomenological thought. This review shows the diversity of progressive religious architecture in Germany in the last century. However, the common denominator seems to be polymorphic neo-modern school. On the one hand, one can observe a sober minimalism, on the other hand, there is a vital expressionism. In this point of view the period at the turn of the century and first years of the 21st century seems to be interesting point of deliberation.

4. COURSE OF THE RESEARCH

The process was supported by three elements:

a) site study;
b) literature study;
c) theoretical comparative study.

All of the above are described with the history feature followed by the research results and conclusion.

5. VARIOUS ASPECTS OF THE ARCHITECTURAL FORM DEVELOPMENT

Contemporary sacral buildings in Germany essentially fit in the neo-modernist tendencies. Nevertheless, certain groups depending on the major determinants of composition, can be distinguished. However, in particular cases some important symbolical and functional factors need to be emphasized.

5.1. Square motif based

It is recognizable that some contemporary German churches that were founded at the beginning of the twenty-first century are simple geometrical motif based. The shape of a square is commonly used as a simplest form to minimize the means the expression. This shape makes the particular architectural work identifiable, whenever it is the matter of a detail or a whole building.

The Christ Pavilion built for Expo 2000 in Hannover could be considered as the prelude for the newest German ecclesiastical architecture. This work by Meinhard von Gerkan is still the sort of architectural landmark referred to the capital of the federal state of Lower Saxony even though after the event it has been translocated to the Evangelical-Lutheran monastery in Volkenroda in Thuringia. The form was adjusted to the commercial surrounding. It is based on a square pattern created with the steal profiles. The shape of the cross is related to both an aesthetics and a structure as the motif is present in the whole appearance [14]. Even the bell tower was built on a cruciform plan. The complex refers to the sacral archetype also in the different ways. The basis of complex is a rectangular yard surrounded by cloisters. The unique values of the composition are the transparent walls that are filled with different sort of material, like organic, mineral, technical or even the objects that are used in the everyday-life. That suggests that the pavilion alternates between the profane and the sacred [1]. The solution ensures the interesting façade motif, but on the other hand it creates
plasticity of the shadows and shades. The design supplies humanistic aspect to this radical geometry.

The supremacy of the square-motif (Fig. 1) is also legible in The Heart of Jesus Church in Munich designed by Markus Allmann, Amandus Sattler and Ludwig Wappner (built in 2000). This is supported by a similar pure module, but the total volume is limited to the form of cuboid. The belfry is a separate building as long it is always vertical dominant. Specific tectonics involves placing the essential building-body in the outer casing. The double façade contains the empty accessible space, that emphasizes the scale of the assumptions. The strong aesthetic impression also has quite modern form of the entrance portal as a gateway representing the entire front elevation. Despite the use of modern materials the temple corresponds to the tradition in many aspects. The Heart of Jesus Church shows the greatest paradox of contemporary sacred architecture. It adapts traditional symbolism in relation to this neo-modernist glass box that was built with the modern technology [2].

Another example of a square-composition is The Catholic Church of St. Peter Canisius in Berlin (built in 2002) that was designed by Heike Büttner, Claus Neumann and George Braun. The mass is primarily a simple combination of two cubes. The full volume of the first one contains a chapel. The second cube is open and it contains a semicircular internal apse that suggests the location of an old church. The empty space is equipped only with exterior altar-table. The division of the function is a materialization of invisi-

5.2. Raw material exposure

The second category that is recognizable in the newest German architecture is the composition of raw and unprocessed materials exposed. Also in these case the buildings have simple forms, but geometric arrangement is not a determinant for an architecture. Rather the subtlety of a material plays the main role. Expressive and phenomenological approach is appropriate.

The Ecumenical Centre in Munich (Fig. 2) designed by Florian and Barbara Nagler is a high-level solution based on a pure material. The complex consists of the Roman Catholic parish of St. Florian (Katholische Pfarrei Sankt Florian) and the Evangelical-Lutheran Church of St. Sophia (Sophienkirche). It was built in 2005 as a part of investment on the area redeveloped after closing of Munich-Riem Airport. The complex is the part of considerable social structure that is an effect of sustainable design [7]. The establishment corresponds to the premise of the Second Vatican Council, that initiated large-scale dialogue with other religions. The investment therefore, seems to be representative of contemporary universal democratic thought. The overall shape of The Ecumenical Centre in Munich is kerygmatic in evoking archetype as an oasis [15], provided that a kerygma is defined as the proclamation of the fundamental truths that are common for different Christian churches. The form corresponds to an idea of an openness, but some traditional determinants are recognizable as well. The discrete bell tower is incisive vertical dominant. The sophisticated motif of the cross at the top level has been achieved by the design of the narrow gap between elevation-panels. The landmark of this architectural composition is created by the layout of high walls that surround main volumes. They may be considered as a screen between the buildings and the alleys. All the composition is in white, while the textures of brick and concrete appear from the paint. The uniqueness of this object is caused also by absolute simplicity, sincerity and the means of expression minimizing [5]. The object is another example of a universal expression of minimalistic formula.
Cemetery Chapel Riem, Munich (Fig. 3) is a neo-expressionistic work designed in the formula of brutalism. The strong expression of the raw material is generated without exuberant shapes. This work (built in 2000) was designed by Andreas Meck and Stephan Köppel. All used materials like oak wood, Corten-type steel, natural fieldstone, raw concrete symbolize the relationship with the earth, but on the other hand they relate to the cycle of life [16]. Some traditional solutions are present. The whole arrangement consists of three courtyards with the separate bell tower as the vertical dominate. The building is modeled on the monastic scheme, as it has been designed as a place of silence. Particular elements like shimmering surface of the water provides a special light perception and an atmosphere of meditation. The whole complex is a purely sacral and there are no extra facilities.

Very expressive approach in the spirit of brutalism represents also the realization of a church of St. Maria Magdalena in Freiburg [5]. However, in this case a dynamic component of the architectural composition is recognized. The double temple designed by the team Kister Scheithauer Gross (built in 2004) is divided into two parts for Lutheran Protestants and Roman Catholics. Two parts are united in the single volume with the internal alley, that separates the chapels. The mobile massive walls between them can be removed, so the one common mass space can be created. The bells are located inside the church as there is no belfry. The folds in two parallel facades cause that the building leans out slightly forward and it generates the distinct and dynamic form [1]. The composition presents neo-expressionistic character, as it is an example of brutalism and it has energetic and spontaneous character.

Another original approach is represented by Peter Zumthor. The work known as Brother Klaus Chapel is located in Mechernich in the state of North Rhine-Westphalia as a landmark in the natural landscape. The building technology seems to be the most distinguishable aspect. The boarding was made of tree trunks and it was burnt out after the construction, that was left raw, unfinished texture of the concrete walls. In this case “the concrete knit” was applied with the reference to Le Corbusier’s La Tourette [17]. Some researchers claim that the motif of grotto is the key for overall shape of this building [15]. The motif of triangle is recognizable in wigwam-shaped interior layout as well as in the detail. The three-cornered portal with a heavy metal door and simple crucifix cut-out above are the only distinctive elements in the composition the stone façade. The exterior is a kind of minimalistic, rectilinear sculpture. The work is a manifesto of phenomenology in relation to the entire Zumthor’s architecture.

5.3. The noble solution and the historical references

Another type of the building is characterized by a strongly defined historical references, although it represents a modern form. Noble materials determine the appropriateness of minimalist design to avoid a profusion.

The Dominican Centre in Munich (Fig. 4) by Andreas Meck, Wolfgang Amann and Peter Fretschner could also be considered as the next investment that refers to the social functions. The complex (built in 2008) is the important functional centre for the housing estate. It consists of different functions, like the chapel, kindergarten, Caritas premises, youth facilities. However, all of them are strictly linked to the life of the parish and the education in the spirit of Christianity. Despite modern form, the authors of the project did not deny the ecclesiastical archetype completely. Some traditional
components are still recognizable. All the functions are combined in one volume that contain the inner atrium. There is no separated bell tower, but elevated rectangular block in the coherent cube is recognizable in general. Many details show the new semantic approach has been applied. Usually symbols serve as a medium of communication in architecture, because they are responsible for the transmission of visual information [18]. Religious symbolism provides the communication effectiveness of the Dominican Centre architecture [19]. Finally, a very important component of the composition is a high quality red clinker, which created a monolithic architectural form. This brick minimalistic architecture is a return to the sources of serenity, simplicity and purity in the meaning of the concept Carta Caritatis and the doctrine of Bernard of Clairvaux [5]. The detail of several hundred brass crosses fixed in the joint between the bricks demonstrates a desire to build a quality through the use of noble materials.

Another realization that is worth discussing in this aspect is the Church Community Building (Fig. 5) located in the area of historical parish. The building designed by Hakki Akyol, Björn Bergfeld, Philipp Kamps and Rolf Petersen is situated next to the Main Church of St. Pieter in Hamburg. The complex realized in 2010 consists of several social functions: parish house, counseling service, community meeting space and the kindergarten, which is the most recognizable facility in the exterior outline. The object is not a sacral building in itself, but it is an extension of historic church. The monolithic cubes are defined by the texture of dark red brick. The gentle rustication in the lower level of clinker wall emphasizes a diligence in the design and the realization. Doors and windows grey metalwork is stylish and modern and applied also in corner openings. Although the simple cube does not refer directly to the neo-gothic church, the noble materials and solutions allow for a proper fit into the historical surrounding. Moreover, it fits in the artistic values of the city centre.

5.4. The composition as a component of a street frontage

Apart from the free-standing buildings whose architectural form is largely arbitrary, there is also a group of realizations integrated with the street development. A numerous limitations make authors ideas find expression more in the composition of the facade, building materials selection and interior design rather than spatial assumptions. Location in a city centre is also not conducive to the use of extremely sophisticated materials, as they require enough space for the exposure.

Some of the projects refer to the historical aspects like the previous example, however, in this case first of all they should be considered as an urban ingredients. House of the Catholic Church in Stuttgart forms a complex with the adjoining Saint Eberhard Cathedral (Fig. 6). The church dates from 1934, although certain elements of the previous temple at this location were preserved. The new extension-building designed by Anton Ummenhofer (built in 2008) is founded on the L-shaped plan. The front narrow façade is part of the street frontage despite the subtle cantilevered forward extension. The elevation panels were fitted to an existing wall of the church. The facade on the ground floor is made as the glass curtain wall and the style of the windows of the four upper floors is simple and modern, but on the top level the openings are arched. This is a delicate reference to historical forms in the contemporary formula. Also the side church elevation that stands the internal wall of the new building empha-
serves historical and cultural values. However, the religious as well as social, education and culture functions are the key deals which holds the complex for citizens. The solution breaks the anonymity of the city and creates a space for the community [20]. Furthermore, the centre is to be a forum to discuss the current issues of politics, society and religion [21].

The second discussed example has no historical references in its location. Ecumenical Forum “HafenCity” in Hamburg (Fig. 7) is designed by the company Wandel Hoefer + Lorch. It was built in 2012 as the result of the effort by the local Christian churches united under the cooperation named “Ökumenisches Forum Brücke”. The church-related functions as well as non-sacral facilities are included in the one volume. This is the next example of a milieu for social encounters that goes far beyond the one usually generated by residents [22]. The architecture complies with the other latest trends in Germany. It has been designed according to the strict sustainability standards [23]. Also the visual aspects make this building unique. The front façade is the part of the street frontage. As it is a typical tenement house layout, it has no belfry, but a single bell is hung as a detail. The composition of the whole façade is very expressive. However it should be noted, that the building is situated in the neighborhood of Chile House, which is concerned as German key expressionistic work. The folded front wall of the Ecumenical Forum is a direct reference to the façade of this Fritz Höger’s building. Also the stylish red brick as a main building material of Ecumenical Forum is the part of a clear consistent city landscape. Clinker is a landmark of local wharf urban tissue, nevertheless especially in this case it contributes to provide a high visual quality.

6. THE DIFFERENCES IN SCALE AND SHAPE

The given set of plans (Fig. 8) shows the differences in scale as well as the compositions. It is therefore evident that most often the style of building is static what is associated to the rectangular shape. However, there are also some dynamic compositions like a multidirectional geometry of St. Maria Magdalena Church in Freiburg or Ecumenical Forum “HafenCity” in Hamburg with its curved shapes. There are also some round elements, however, they are not clearly readable in the whole spatial external composition, like it is present in Catholic Church of St. Peter Canisius in Berlin.

In conclusion, it should be noted that none of the examples represent the traditional layout of the
church, like for example Latin-cross plan. Also a rigid east-west orientation was abandoned in almost all the structures (the only exception is Church Ecumenical Centre in Munich). This shows that the functional determinants dominate the symbolic ones.

7. THE RESULTS OF THE RESEARCH PROCESS

Analysis of individual cases show that modern religious buildings differ in composition. Some cases are characterized by an exposure to a specific geometry, like square motif. Other compositions are distinguished by the peculiar treatment of the building material like raw material exposure, while in opposition, other projects operate noble material solution so as to give the sublime nature of the place of worship, but giving up the style of the historical and traditional detail. All the forms match the tendency of minimalism that is universal and common for secular architecture.

Comparison of the latest architecture most of all visualizes the promotion of the forms that are clear. The four given types of contemporary architectural compositions crystallized in this paper create a certain classification system, although it should be noted that this is non dichotomous division.

Figure 8.
The plans of selected buildings: a) Christ Pavilion in Volkenroda; b) Heart of Jesus Church in Munich; c) Catholic Church of St. Peter Canisius in Berlin; d) Church Ecumenical Centre in Munich; e) St. Maria Magdalena Church in Freiburg; f) Dominican Centre in Munich; g) House of the Catholic Church in Stuttgart; h) Ecumenical Forum “HafenCity” in Hamburg
(source: drawing by A. Serafin)
8. CONCLUSION

According to some theories, modernism in sacral architecture was the one fixed by conciliar guidelines. The movement limited its attention only to utilitarian functions and broke the traditional sacral language of forms with its multi-layered content and symbolism [6]. On the other hand, today certain symbols have lost their coverage in the function. For instance, nowadays churches avoid Latin-cross plan, that has been a Christian emblem because such a stiffness of the whole building structure is not necessary any more. However, cubic minimalism possibly establishes controversial formula for contemporary sacral architecture. It causes the risk of an architectural tradition emaciation through the limitation of symbols. That may adversely affect cultural values, albeit some given examples have developed their semantic layer while minimizing the means of expression. However, some researchers claim that neither garrulous expressionism nor voluble synthetic stylization does not favor the transition of the Spirit [24]. On the other hand, it seems to be significant that the new architecture has chosen rationalized and static forms today, despite differentiated background of architectural modernity (outlined in the initial part of this paper).

The social program has also relevant impact. The author of the mentioned Christ Pavilion said that religion may lose its credibility by the process of adapting Christianity to the modernity, as the social function of ecclesiastical buildings is being popularized [25]. According to another opinion, contemporary Churches should give the chance to approach sacrum even there where the place is not devoted for that purpose as long as an inner peace and relief is exactly what contemporary people look for [26]. However, this seems to be a ontological discussion out of the range of an architecture.

The lack of uniqueness against the remaining functions is the characteristic feature of contemporary church architecture. Analyzed examples have shown that religious place of worship has lost the role of the spatial as well as visual dominant and it is getting neutrally fit in the surrounding urban tissue.

FURTHER INFORMATION

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